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Variation among Relative Markers in Early Modern English: Evidence from the EEBO Corpus

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1. Introduction

In the history of the English language, linguistic changes tend to occur, moving from the synthetic to the analytic. However, the pathways of this shift seem to be more complex in the case of the relative markers in Early Modern English. Relative markers, which begin a relative adverbial clause, are known to have had three variations, as in the following examples of the preposition *to*.

- (1) it is good, that our education should perfect our children in all those commendable qualities, **wherto** they are disposed (Joseph Hall, 1618)

In (1), the relative ad/verb *wherto* is used, which is a synthetic form of *where* plus *to*. We would call this kind of relative adverb ‘synthetic adverbs.’ There are other types of relative markers given in (2) and (3).

- (2) for what cause men absent themselues from Christes Christes banket, **to the which** thei shuld come not annually, but continually (Roger Hutchinson, 1560)
- (3) but a leon for that proud pharisie, that hee might be conuincd by his owne confidence: which appeares by that matth: 19: 21 second answeere of our Sauour, wherein he shewes, that the law requires per fit obedience, **which** he had not attained **to** (Anthony Wotton et al., 1606)

In contrast to (1), relative markers of examples (2) and (3) both have an analytic form. (2) is an example of so-called pied-piping or prepositional adverbs, in which the definite article *the* may be omitted. In (3), the preposition is placed at the end of the relative clause, or is stranded, which we call ‘prepositional stranding.’ We would call relative markers such as those in (2) and (3) ‘analytic prepositional phrases.’

According to Nevalainen & Raumolin-Brunberg (2017: 75), there occurred ‘a shift from synthetic adverbs to analytic prepositional phrases’ in the Early Modern English period. They state that this change was not straightforward, but that ‘the pattern [of the change] was rather analytic – synthetic – analytic.’ In other words, the pathways of change in the relative markers started from the analytic prepositional phrase, as in (2), then leaned toward the synthetic relative adverb, as in (1), and finally ended up in prepositional stranding, as in (3).

However, relativisers in the history of English have traditionally been thought of within the scope of rivalry between pied-piping, as in (2), and prepositional stranding, as in (3). Pied-piping was the only option which the *wh*-relatives could take. It was not until the Middle English period that the English language had begun to exhibit prepositional stranding (Bergh & Seppänen 2000). On the distribution of pied-piping and stranding in the Late Middle English period, Bergh & Seppänen (2000) report, on the basis of three studies (Van den Eynden 1984; Bengtsson 1996; Steinki 1932), that the proportion of stranding is only 2 percent. The emergence of stranding is observed in the Early Modern English period, in which the proportion of stranding amounts to 12 percent according to multiple studies (Rydén 1966; Ingels 1985; Bengtsson 1996; Lindelöf 1997), neatly summarised by Bergh & Seppänen (2000: 305-6). Their claim that there was a rise and expansion of prepositional stranding from Early Modern English will also be corroborated by the data of this study.

The rivalry between pied-piping and stranding has attracted much scholarly attention. However, it may be worthwhile to include synthetic adverbs, as given in (1) of the analysis, in addition to pied-piping in (2) and stranding in (3). If we consider the functional domain of relative markers, the examples (1) to (3) could be regarded as the variation. Since Early English Books Online (EEBO) has now been made available through the BYU online corpora interface (Davies 2017), the opportunity is ripe to examine this variation. This study thus investigates the variations and diachronic changes among relative markers on a larger scale by means of the EEBO Corpus.

Drawing on the research design by Nevalainen & Raumolin-Brunberg (2017), this study examines three types of relative markers: 1) WHERE + preposition; 2) preposition (optional *the*) WHICH; and 3) stranded types.

Eight prepositions will be examined: ABOUT, AFTER, BY, ON, TO, UNTO, UPON, and WITH. The reason for choosing them is that ‘they did not undergo major semantic or pragmatic changes in Early Modern English’ (Nevalainen & Raumolin-Brunberg 2017: 75). This study aims to answer two research questions based on the quantitative data.

1. How were the relative markers realised in the Early Modern English period?
2. To what extent does the evidence from the EEBO Corpus support the observation that the relative markers underwent the analytic – synthetic – analytic change?

It will be shown that the overall trend is indeed in accordance with the results obtained from the CEEC by Nevalainen & Raumolin-Brunberg (2017). At the same time, this paper will argue that the individual prepositions show differing trends in that they demonstrate an analytic – synthetic – analytic change, but with different rates of change.

2. Methodology

Three types of relative markers were searched for within the EEBO Corpus, as listed below. Spelling variants of WHERE and WHICH, as well as AFTER, ABOUT, UPON, and UNTO, were taken into consideration.¹ Searches were made for possible combinations of the relative markers of the spelling variants of WH and prepositions.²

1. WHERE + preposition (e.g. *whereto*)
2. preposition (optional *the*) WHICH (e.g. *to which, to the vwhich*)
3. preposition stranding (e.g. *which ... to*)

¹ Spelling variants of WHERE are *where, wher, vwhere, whear, wheare, wheares, vvher, whar, and whare*. WHICH includes *which, whiche, vwhich, vvliche, whych, whyche, wich, and wch*.

As for spelling variants of the prepositions, AFTER includes *after, aftir, aftyr, and aftre*. ABOUT includes *about, aboute, abowt, and abowte*. UPON includes *upon and ypon*; UNTO includes *unto and vnto*.

² Search strings for WHERE + prep are listings of the variants conjoined with OR operators. For the preposition (optional *the*) WHICH type, *_y* PREP [which]* and *_y* PREP the [which]* are used. Preposition stranding was searched according to the condition that *PREP _y** collocates with *which* within five words to the left.

The data provided by the EEBO Corpus stretch from 1470 to 1699, which covers the entire Early Modern English period for more than 200 years. This study divides the period into eleven 20-year periods, beginning from 1480-1499 and ending with 1680-1699. The data between 1470 and 1479 were excluded from this study, since my initial pilot study showed that its inclusion skewed the results, presumably for the reason that the beginning 10-year period lacks a sufficient amount of data in comparison to the later periods. The exclusion would also be justified because it makes the periodisation suitably comparable to the data of Nevalainen & Raumolin-Brunberg's study.

3. Results and discussion

To begin with, the overall result is provided, followed by the results of each preposition. There is a trend shared by many prepositions that the WHERE + prep type occupies the majority until around 1600 and begins to decline thereafter. Another trend is that the stranded types tend to remain stably low, though some begin to increase towards the end of the seventeenth century.

3.1. Overall result

Figure 1 shows the overall trends in the relative markers. Each percentage in the graph is calculated from the cumulative frequency of three types of relative markers.³ The WHERE + prep type remains around or above 70 percent between 1480 and 1580, while the prep (the) WHICH type comprises around 25 percent. During the same period, the stranded type remains marginal, at just under 3 percent of the total. From 1580 onwards, the WHERE + prep gradually drops at the average rate of 6.7 percent between 1580 and 1699. Parallel with this decline, the prep (the) WHICH increases consistently at the average rate of 6.1 percent between 1580 and 1699. As a result of their respective gradual decline and rise, the prep (the) WHICH type ends up surpassing the WHERE + prep type during the period 1680-1699. The stranded type shows signs of increase from 1620, but only reaches as high as around 5 percent.

³ See Table 1 in the Appendix for the raw frequency.

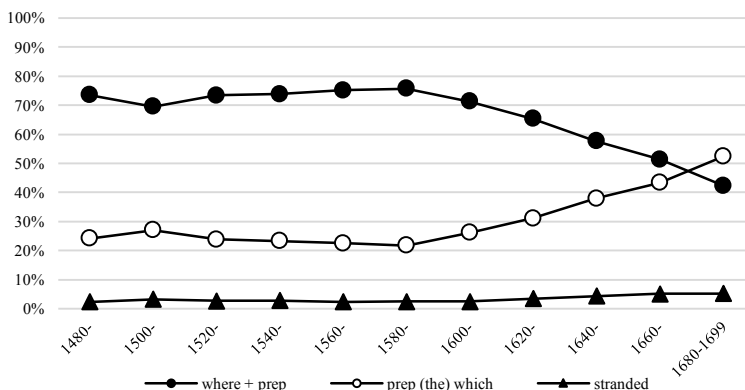


Figure 1. Overall trends in the relative markers (ABOUT, AFTER, BY, ON, TO, UNTO, UPON, WITH) across time

Figure 1 bears similarity to the CEEC by Nevalainen & Raumolin-Brunberg, but the changes in the trends are somewhat milder: there are no outstanding peaks in Figure 1. The crossover between the WHERE + prep and the prep (the) WHICH takes place after 1680, whereas it occurs after 1640 in the CEEC.⁴ On the whole, the overall data in this study corroborate the results from the CEEC. Although the cumulative data resemble the CEEC, the individual eight prepositions show different trends from each other, which will be discussed in the following sections. The prepositions are examined in alphabetical order.

3.2. AFTER

AFTER is an exception among the eight prepositions, in that the WHERE + prep type (WHEREAFTER) keeps consistently low throughout the eleven periods, as in Figure 2.

⁴ This 40-year difference in the CEEC preceding the EEBO Corpus is suggestive in its own right, in that the single-genre corpus consisting of the personal letters reflects the change earlier than multi-genre corpora like the EEBO.

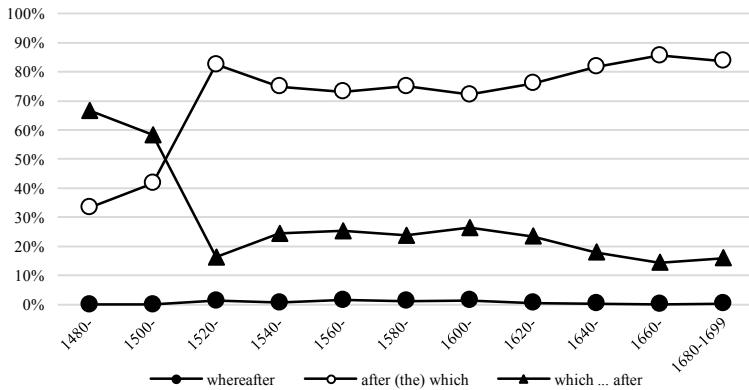


Figure 2. Variation in the relative markers of AFTER across time

The AFTER (the) WHICH type comprises about 30 to 40 percent during the initial period, from 1480 to 1500. It doubles to more than 80 percent between 1500 and 1520, and then fluctuates around 80 percent thereafter.⁵ On the other hand, the trend in the stranded type is a mirror image: it comprises the majority at the beginning, hits a low of 16.3 percent during the 1520-1539 period, and then fluctuates, reacting to the ups and downs of the AFTER (the) WHICH type. The crossover of the AFTER (the) WHICH and stranded type occurs between 1550 and 1520.

3.3. ABOUT

The trend of ABOUT is not as straightforward as for the other prepositions. In particular, the period between 1480 and 1519 appears confusing. However, there are fewer than ten instances in these periods.⁶ From 1520 onwards, ABOUT (the) WHICH steadily increases, crosses over to the stranded type in the period 1540-1559, and keeps rising until it reaches 70 percent in the 1660-1679 period. As for WHEREABOUT, it fluctuates between 10 and 20 percent, but it never surpasses the other two types.

⁵ See Table 2 in the Appendix for the raw frequency of AFTER.

⁶ See Table 3 in the Appendix for the raw frequency of ABOUT.

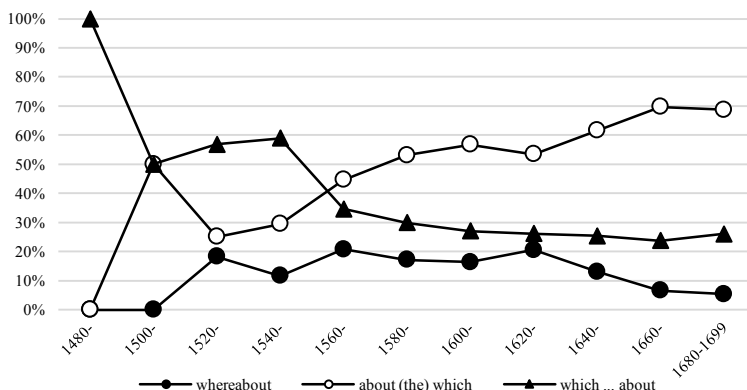


Figure 3. Variation in the relative markers of ABOUT across time

It is a characteristic shared by ABOUT and AFTER that the crossover occurs between the prep (the) WHICH and stranded type. In no other prepositions does the stranded type supersede the prep (the) WHICH type. An explanation for this is not within the scope of this study, but it may have something to do with syntactic and semantic restrictions. It is stated that ‘only pied-piping tends to be possible when the prepositional phrase functions as an adjunct rather than as a complement’ (Bergh & Seppänen 2000: 295). Instead, stranding ‘seems natural in cases where the preposition is part of a complex verbal idioms’ (Bergh & Seppänen 2000: 295). In the case of ABOUT, the division of labour might have been more clear-cut than others.⁷

3.4. BY

Unlike ABOUT and AFTER, BY shows a much simpler trend. Figure 4 shows that WHEREBY occupies the majority, and BY (the) WHICH the rest, and that WHEREBY and BY (the) WHICH are mirror images of each other. From 1580 onwards, they get closer, but never make a crossover in the observed periods.⁸ To put it simply, BY is not susceptible to change: changes do occur, but proceed

⁷ Lexically speaking, ABOUT and AFTER are both grammaticalised prepositions (relative newcomers into the stock of prepositions), which may also have some bearing on the distributional difference.

⁸ See Table 4 in the Appendix for the raw frequency of BY.

slowly. These kinds of slow-moving prepositions also include UNTO, UPON, and WITH.

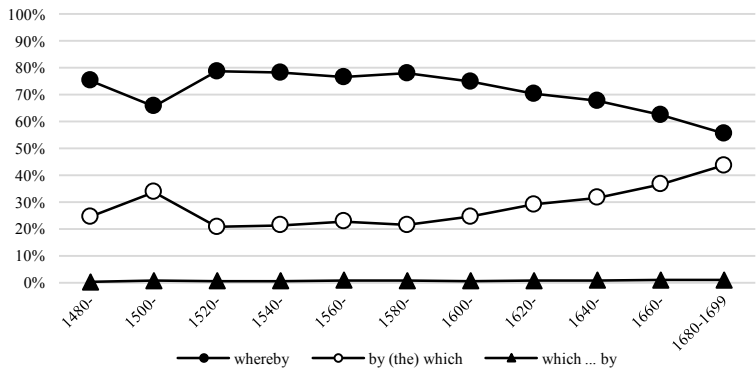


Figure 4. Variation in the relative markers of BY across time

3.5. ON

ON also makes a clear mirror image, with noticeable peaks and a crossover, as in Figure 5.⁹ Between 1500 and 1559, WHEREON declines from 90 percent to 60 percent, while ON (the) WHICH rises by 30 percent in proportion to this. Thereafter, WHEREON picks up throughout 1560-1579 and steadily falls until 40 percent at the end. The ON (the) WHICH type crosses over WHEREON between 1660 and 1679.

⁹ See Table 5 in the Appendix for the raw frequency of ON.

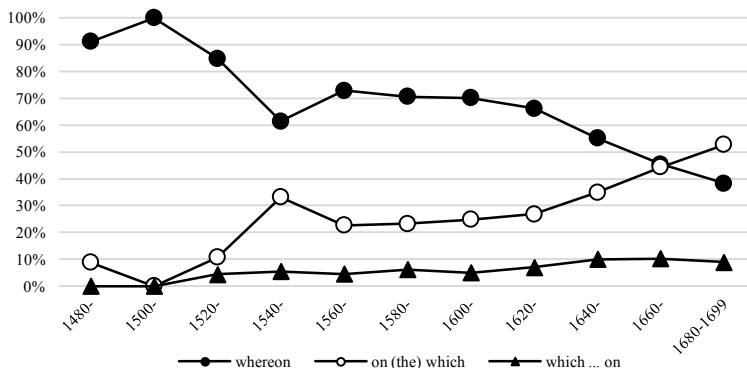


Figure 5. Variation in the relative markers of ON across time

In comparison to BY, ON visibly demonstrates a decline in WHERE + prep and a proportional rise of the prep (the) WHICH type. It is interesting to see that the crossover between WHEREON and ON (the) WHICH taking place after 1660 corresponds to that of the overall trend in Figure 1, despite the fact that the total occurrences of the ON relative markers comprise only 5 percent of the combined overall occurrences of the eight prepositions.

3.6. To

TO, as in Figure 6, undergoes two distinctive changes. Firstly, TO (the) WHICH replaces WHERETO between 1500 and 1519. In the case of TO, the crossover between the WHERE + prep and prep (the) WHICH type takes place at a very early stage, in contrast to ON or BY, where the crossover either occurs very late or is expected to happen from the trends. Secondly, the stranded type goes up from 1620 onwards and crosses over WHERETO between 1680 and 1699.¹⁰

¹⁰ See Table 6 in the Appendix for the raw frequency of TO.

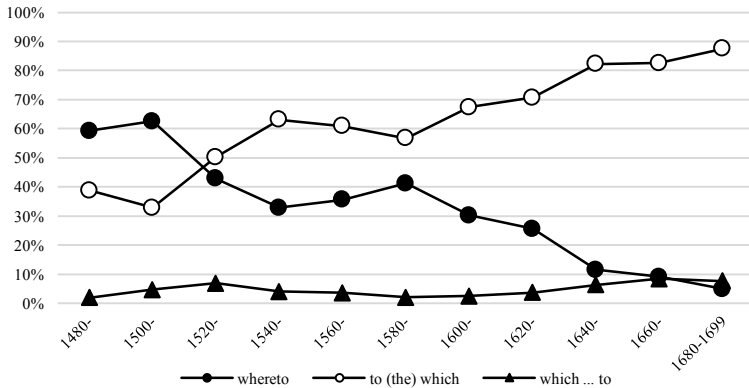


Figure 6. Variation in the relative markers of TO across time

All in all, there are three stages in the diachronic change of the TO relative markers. The first stage is from 1480 to 1519 in which WHERETO stays dominant. The second stage starts from 1520 with the crossover, followed by the stabilisation of WHERETO and TO (the) WHICH until 1599. Lastly, WHERETO climbs up by 30 percent between 1600 and 1699. There occurs a corresponding decline of TO (the) WHICH, finally taken over by the stranded type. From these observations, it can be argued that over 200 years, TO goes through the analytic – synthetic – analytic change.

3.7. UNTO

Unlike the drastic changes of TO, UNTO might give, to speak candidly, a rather dull impression. As in Figure 7, the trend of UNTO remains stable throughout all the periods, with the exception of some bumps at the beginning.

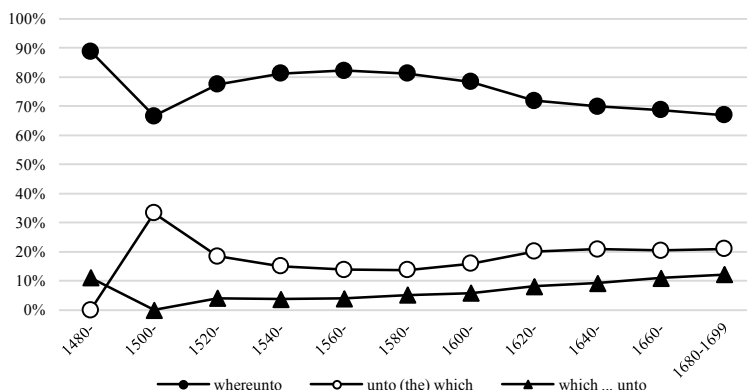


Figure 7. Variation in the relative markers of UNTO across time

The occurrences during the initial 40 years are so infrequent that the periods from 1520 should be focused on.¹¹ Between 1520 and 1699, all the types stabilise and never cross over one another.

3.8. UPON and WITH

UPON and WITH are similar to BY in terms of the pace of change and the types of the relative markers. Figure 8 shows the trend of UPON. Just like BY, WHEREUPON and UPON (the) WHICH seem to converge from 1580 onwards and eventually become likely to intersect.¹² For the sake of space, the figure of WITH is omitted, but its overall trend resembles those of UPON and BY.¹³

¹¹ See Table 7 in the Appendix for the raw frequency of UNTO.

¹² See Table 8 in the Appendix for the raw frequency of UPON.

¹³ See Table 9 in the Appendix for the raw frequency of WITH.

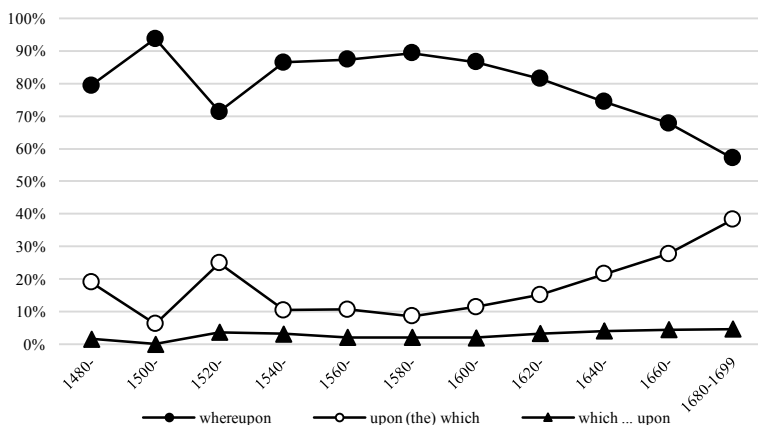


Figure 8. Variation in the relative markers of UPON across time

4. Concluding remarks

This paper has focused on the variation of three type of relative markers across time. It has been shown that AFTER and ABOUT share common ground, TO is susceptible to change from the early stages, and the rest share the trend of different rates of change. According to diachronic variation, the eight prepositions under study can be classified into three groups.

Group A: TO

Group B: (i) ON; (ii) BY, UPON, WITH; (iii) UNTO

Group C: AFTER, ABOUT

There are three subcategories in Group B in terms of rate of change. The change in Group B (i) proceeds faster than Group B (ii), with Group B (iii) being the slowest. Group C is distinguished from A and B in that the competing types of the relative markers are different: the prep (the) WHICH and stranded types compete in C, while the WHERE + prep and prep (the) WHICH types compete in both A and B.

In conclusion, the overall trend lends support to the analytic – synthetic – analytic change of the relative markers. On closer scrutiny, however, it has been demonstrated that the individual prepositions have variety in the pathways of change, while sharing a common trend moving from the

relative adverb towards the prepositional phrase, except AFTER and ABOUT.

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Appendix

Table 1. Overall frequency of the relative markers

	WHERE+prep		Prep (the) WHICH		Stranded	
	N	%	N	%	N	%
1480-1499	526	73.5%	173	24.2%	17	2.4%
1500-1519	334	69.6%	130	27.1%	16	3.3%
1520-1539	3,924	73.4%	1,278	23.9%	145	2.7%
1540-1559	7,973	73.8%	2,515	23.3%	309	2.9%
1560-1579	25,487	75.1%	7,639	22.5%	809	2.4%
1580-1599	38,520	75.7%	11,084	21.8%	1,271	2.5%
1600-1619	51,797	71.2%	19,034	26.2%	1,870	2.6%
1620-1639	40,337	65.4%	19,232	31.2%	2,150	3.5%
1640-1659	63,213	57.7%	41,523	37.9%	4,810	4.4%
1660-1679	54,424	51.4%	45,936	43.4%	5,498	5.2%
1680-1699	50,638	42.4%	62,487	52.3%	6,304	5.3%

Table 2. Frequency of the relative markers of AFTER

	WHEREAFTER		AFTER (the) WHICH		Stranded	
	N	%	N	%	N	%
1480-1499	0	0.0%	2	33.3%	4	66.7%
1500-1519	0	0.0%	5	41.7%	7	58.3%
1520-1539	3	1.3%	198	82.5%	39	16.3%
1540-1559	2	0.6%	236	74.9%	77	24.4%
1560-1579	10	1.6%	472	73.2%	163	25.3%
1580-1599	12	1.2%	747	75.0%	237	23.8%
1600-1619	20	1.4%	1,028	72.2%	376	26.4%
1620-1639	8	0.6%	1,090	76.0%	336	23.4%
1640-1659	12	0.3%	2,885	81.7%	633	17.9%
1660-1679	2	0.1%	3,285	85.6%	551	14.4%
1680-1699	13	0.3%	3,917	83.8%	747	16.0%

Table 3. Frequency of the relative markers of ABOUT

	WHEREABOUT		ABOUT (the) WHICH		Stranded	
	N	%	N	%	N	%
1480-1499	0	0.0%	0	0.0%	6	100.0%
1500-1519	0	0.0%	1	50.0%	1	50.0%
1520-1539	8	18.2%	11	25.0%	25	56.8%
1540-1559	11	11.6%	28	29.5%	56	58.9%
1560-1579	66	20.8%	142	44.7%	110	34.6%
1580-1599	80	17.1%	249	53.1%	140	29.9%
1600-1619	112	16.3%	389	56.7%	185	27.0%
1620-1639	119	20.6%	309	53.4%	151	26.1%
1640-1659	125	13.1%	588	61.6%	242	25.3%
1660-1679	71	6.5%	758	69.7%	258	23.7%
1680-1699	69	5.3%	892	68.7%	338	26.0%

Table 4. Frequency of the relative markers of BY

	WHEREBY		BY (the) WHICH		Stranded	
	N	%	N	%	N	%
1480-1499	319	75.2%	104	24.5%	1	0.2%
1500-1519	191	65.6%	98	33.7%	2	0.7%
1520-1539	2,208	78.7%	580	20.7%	16	0.6%
1540-1559	4,111	78.2%	1,119	21.3%	28	0.5%
1560-1579	12,000	76.6%	3,561	22.7%	114	0.7%
1580-1599	17,093	78.0%	4,684	21.4%	138	0.6%
1600-1619	22,891	74.8%	7,518	24.6%	176	0.6%
1620-1639	17,491	70.3%	7,212	29.0%	163	0.7%
1640-1659	30,199	67.8%	14,043	31.5%	322	0.7%
1660-1679	26,526	62.5%	15,521	36.6%	379	0.9%
1680-1699	25,380	55.5%	19,911	43.6%	415	0.9%

Table 5. Frequency of the relative markers of ON

	WHEREON		ON (the) WHICH		Stranded	
	N	%	N	%	N	%
1480-1499	31	91.2%	3	8.8%	0	0.0%
1500-1519	14	100.0%	0	0.0%	0	0.0%
1520-1539	134	84.8%	17	10.8%	7	4.4%
1540-1559	213	61.4%	115	33.1%	19	5.5%
1560-1579	878	72.9%	272	22.6%	54	4.5%
1580-1599	1,491	70.6%	490	23.2%	130	6.2%
1600-1619	2,321	70.2%	821	24.8%	165	5.0%
1620-1639	2,521	66.2%	1,020	26.8%	269	7.1%
1640-1659	2,905	55.1%	1,842	34.9%	527	10.0%
1660-1679	2,467	45.4%	2,411	44.4%	556	10.2%
1680-1699	2,488	38.3%	3,426	52.8%	580	8.9%

Table 6. Frequency of the relative markers of TO

	WHERE TO		To (the) WHICH		Stranded	
	N	%	N	%	N	%
1480-1499	61	59.2%	40	38.8%	2	1.9%
1500-1519	40	62.5%	21	32.8%	3	4.7%
1520-1539	163	42.9%	191	50.3%	26	6.8%
1540-1559	220	32.9%	422	63.1%	27	4.0%
1560-1579	772	35.6%	1,320	60.9%	77	3.6%
1580-1599	1,594	41.2%	2,194	56.7%	79	2.0%
1600-1619	2,117	30.2%	4,721	67.4%	170	2.4%
1620-1639	1,869	25.6%	5,155	70.7%	272	3.7%
1640-1659	1,894	11.5%	13,579	82.2%	1,042	6.3%
1660-1679	1,625	9.1%	14,782	82.5%	1,506	8.4%
1680-1699	1,143	4.8%	20,656	87.6%	1,792	7.6%

Table 7. Frequency of the relative markers of UNTO

	WHERE UNTO		UNTO (the) WHICH		Stranded	
	N	%	N	%	N	%
1480-1499	8	88.9%	0	0.0%	1	11.1%
1500-1519	2	66.7%	1	33.3%	0	0.0%
1520-1539	269	77.5%	64	18.4%	14	4.0%
1540-1559	896	81.2%	166	15.0%	41	3.7%
1560-1579	3,105	82.2%	522	13.8%	149	3.9%
1580-1599	4,408	81.2%	745	13.7%	275	5.1%
1600-1619	5,529	78.4%	1,121	15.9%	406	5.8%
1620-1639	3,614	71.8%	1,008	20.0%	408	8.1%
1640-1659	5,356	69.9%	1,602	20.9%	708	9.2%
1660-1679	4,195	68.7%	1,243	20.4%	668	10.9%
1680-1699	2,779	66.9%	871	21.0%	504	12.1%

Table 8. Frequency of the relative markers of UPON

	WHEREUPON		UPON (the) WHICH		Stranded	
	N	%	N	%	N	%
1480-1499	50	79.4%	12	19.0%	1	1.6%
1500-1519	45	93.8%	3	6.3%	0	0.0%
1520-1539	192	71.4%	67	24.9%	10	3.7%
1540-1559	905	86.4%	109	10.4%	33	3.2%
1560-1579	3,507	87.3%	426	10.6%	83	2.1%
1580-1599	7,149	89.3%	688	8.6%	168	2.1%
1600-1619	10,800	86.6%	1,429	11.5%	247	2.0%
1620-1639	8,066	81.5%	1,501	15.2%	328	3.3%
1640-1659	13,295	74.4%	3,850	21.5%	723	4.0%
1660-1679	11,266	67.8%	4,609	27.7%	747	4.5%
1680-1699	11,265	57.1%	7,533	38.2%	917	4.7%

Table 9. Frequency of the relative markers of WITH

	WEREWITH		WITH (the) WHICH		Stranded	
	N	%	N	%	N	%
1480-1499	57	80.3%	12	16.9%	2	2.8%
1500-1519	42	91.3%	1	2.2%	3	6.5%
1520-1539	947	85.7%	150	13.6%	8	0.7%
1540-1559	1,615	82.3%	320	16.3%	28	1.4%
1560-1579	5,149	84.0%	924	15.1%	59	1.0%
1580-1599	6,693	82.8%	1,287	15.9%	104	1.3%
1600-1619	8,007	78.8%	2,007	19.8%	145	1.4%
1620-1639	6,649	75.5%	1,937	22.0%	223	2.5%
1640-1659	9,427	71.6%	3,134	23.8%	613	4.7%
1660-1679	8,272	66.5%	3,327	26.8%	833	6.7%
1680-1699	7,501	54.4%	5,281	38.3%	1,011	7.3%